Rotation A: Facilitator Script
VR Only
ADL Lab

Groups 1,2, and 3 will be with Luis C.; **Groups 4 and 5** will be with Claire M.
8 minutes per person; **16** minutes per pair; **48 minutes total**

Script

Instruct all pairs to put their headbands on.

Part 1

" Hello, my name is (facilitator), I will be the facilitator for the lab experience for Rotation A."

"(Therapist), you will be playing the role of the simulated therapist first. (Patient), you will be playing the role of the simulated patient first. You will later switch roles once (patient) has completed the patient experience"

"(Patient), this is a virtual reality (VR) headset and controllers. You will use these to complete the following simulation."
point to headset and controllers

"This is a boundary for you to stay inside of while completing the simulation. The boundary is here to aid in your safety as well as the safety of others. You will remain inside the boundary during the entire lab experience until instructed to exit."
point to boundary

"If at any point during the simulation, you feel dizzy, nauseous, or have any other symptoms please alert me, (facilitator), immediately."

"Here are the controllers."
show controllers

"The right controller is marked with an *R* and the left with an *L*. During the simulation you can use the controllers to navigate through games and select items. There is a trigger on the end for your index finger and on the inside for your middle finger. The trigger on the end will be the most utilized as a selection tool."

“On the RIGHT controller there will be a small oval button ( ) that can be pressed using your thumb and will be used to open the main menu.”
point to the button

“Once you have the headset on, I will hand you both controllers in their respective hand.”

“This is the headset.”
show them the headset

“You can adjust the straps on the top and back to ensure a comfortable fit.”
show them how to adjust the straps

“Place the headset on now and make any adjustments necessary.”

allow them time to adjust the headset

“I am handing you the left controller.”
hand them the left hand controller

“I am handing you the right controller.”
hand them the right hand controller

“The first game is called BeatSaber and will be used as a warm-up activity and is already loaded on the device. Can you see it clearly?”

“This is a demo of BeatSaber and you are currently on the main menu.”

“During the game, colored squares will move towards you and you will have to swing the colored sticks to match the color (either red or blue) and direction indicated on the squares.”

“Occasionally, there will be large red rectangular obstacles that you will have to dodge by either moving to the side or ducking.”
“(Therapist), while (patient) is playing the game, you will watch the screen and instruct her on how to play, as well as any upcoming obstacles you may see.”
point to screen

“I will talk you through the navigation process to begin.”

“Hover over the middle of the menu that says “START GAME” and press the right index finger trigger to confirm your selection. The game will begin shortly.”

SET TIMER FOR 2 MINUTES

timer goes off

“Now you may stop the game. Press the ( ) using your thumb and and select the quit button on the newly opened menu to exit.”

“Now you should be back to the home screen.”

“Navigate to the bottom of the screen and hover over the app library button (the square with 9 small dots inside) and use the right index finger trigger to confirm your selection.”

“This should open a menu where you can see all the applications installed on the device.”

“The next game you will be playing is called Bait. Hover over the app with the ‘fishing bobber’ and confirm your selection using the right index finger trigger.”

“Now you should be in the game. Select the ‘start’ game menu item using your right index finger trigger to begin.”

“This will open another menu. Hover over the “NEW GAME” icon to begin”

“As you load in, look to your left hand side. There will be a red exclamation mark. Select the exclamation mark using the right index finger trigger.”

“Look back to the middle of the screen. A menu with a person talking will appear. Navigate to the right hand corner of the menu and select the arrow three times to move to the next windows. After the third time, an “X” should appear on the window. Select this to close the menu completely.”

“A fishing rod will appear. Press and hold the right side trigger button to grab the fishing rod. A glowing square will then appear on the water. The goal is to cast the fishing line into the square.”

“To do so, press and hold the right index finger trigger to ready the casting. Pull your right arm overhead and make a wide swinging motion towards the glowing square while simultaneously releasing the right index finger trigger. Give it a try.”
**have them perform the fishing motion”*

“The fishing line should land on the glowing square. There will be visible shadows of fish underneath the water that will swim towards the fishing bobber. Once the bobber goes under the water briefly, you are able to reel in the fish.”

“To reel the fish in, draw the left controller close to the right controller, as if putting your hand on the fishing reel, and start making circular motions away from you to emulate reeling in the fish”

“A bar will appear above the fish. If the bar turns red, you must briefly stop reeling. Once the bar returns to the previous color, you will be free to once again reel in the fish”

“When you finally pull the fish out of the water and close to you, you will reach towards the fish with your left controller, then grab the fish using the left index finger trigger. Let go of the same trigger to release the fish back into the water.”

“(Therapist), once again you will be watching the screen and instructing her on how to catch the fish.”

“Now you (patient) can begin fishing independently.”

**SET TIMER FOR 2 MINUTES”*

timer goes off

“ Now you can stop the game. Press main menu button **(** **)** using your thumb to open a menu, then hover over the “quit” button then confirm the selection using your right index finger trigger to exit the game.”

“Now you should be back to the home screen. Navigate to the app library button (**)** then go back to the BeatSaber application and select it.”

“You have now completed the simulated lab experience.”

“I will now take the controllers from you.”
take controllers

“Please remove the headset.”

If they have not switched roles yet, continue to Part 2. If they have switched roles already continue to Part 3

Part 2

“You (therapist and patient) will now switch roles for the rest of the lab experience.”

indicate swapping of spots

****CLEAN HEADSET CUSHIONS WITH ALCOHOL WIPE and LENSES WITH MICROFIBER CLOTH****

****Return to Part 1****

Part 3

“You have now both completed Rotation A of the lab simulation experience. Thank you for your participation.”

“You may both return to your seats, or if everyone in your group has completed this rotation you can move to the next rotation. (Faculty Member) will direct you to the where the next rotation will take place.”

END OF VR ONLY LAB EXPERIENCE

Rotation B: Facilitator Script
Traditional Only
SP Lab

Groups 1,2, and 3 will be with Kathleen T.; **Groups 4 and 5** will be with Faculty Member.
8 minutes per person; **16** minutes per pair; **48 minutes total**

Script

Part 1

" Hello, my name is (facilitator), I will be the facilitator for the lab experience for Rotation C."

"(Therapist), you will be playing the role of the simulated therapist first. (Patient), you will be playing the role of the simulated patient first. You will later switch roles once (patient) has completed the patient experience"

"The first activity for this lab experience is balloon volley. (Therapist), you will be tossing balloons to (patient) for her to hit with these two dowels."

show dowels

"(Patient), you will place the RED DOWEL in your RIGHT hand and the BLUE DOWEL in your LEFT hand."
hand them dowels

"This is a boundary for you to stay inside of while completing the activity. The boundary is here to aid in your safety as well as the safety of others. You will remain inside the boundary during the entire lab experience until instructed to exit."
point to boundary

"I will be instructing you (patient) on the direction to hit the balloons as they come. I may say hit it up, to which you will sweep up with the dowel." I may say to the right or left. Pay attention to my voice as you complete this activity."
show them hitting up, down, left, right motion

"Now you will both enter the boundary and begin when I say go. I will instruct you on when to stop."
configure them into the boundary
hand basket of balloons to therapist

"Begin"

SET TIMER FOR 2 MINUTES

**timer goes off"*

"Stop."

"Please (patient) hand me your dowels and put the balloons back into the basket."
take dowels

allow time for them to pick up

"We will now continue to the next portion of the rotation."

"The next portion of this rotation involves two separate fishing activities. The first of which will be completed utilizing a pool noodle attached to a string."
hand pool noodle to patient

"You (patient) will use this pool noodle to try to land the lure inside the hula hoop. You must bring your shoulder and elbow into flexion to cast the lure."
show casting motion

"(Therapist), you will provide (patient) with encouragement and feedback as they try to accomplish the goal. You will keep count of how many they can get in the hula hoop."

"I will be keeping track of the time. You can begin when I say 'GO' and end when I say 'STOP'"

direct and give them time to set up

"Go"

SET TIMER FOR 2 MINUTES

*****timer goes off*****

"Stop"

"The next fishing activity involves fishing and reeling with a magnetic fishing pole."
direct them to fish pool table

“You (patient) will use this fishing pole to catch fish in the pool.” “To reel the fish in, rotate the reel handle away from you (counterclockwise). To let down the fishing line, rotate the reel handle back towards you (clockwise).”
demonstrate reeling

“Give it a try.”
have them try letting out the fishing line and reeling it in

“Pick up fish by dropping the lure onto their mouths. Be careful when reeling it in because you don’t want to lose your fish. Try to catch the pink fish.”
have them try to catch the pink fish

“Great job! Once you have caught the fish you will place them on the table next to the pool. (Therapist) may help you detach your fish but only when it is laying on the table (not while over the pool, or in the air). Try it out.”
have the therapist assist the patient with detaching the fish

“Great job! Your goal is to catch as many fish as possible in the allotted time. (Therapist), you will provide (patient) with encouragement and feedback as they try to accomplish the goal. You will also help them detach their fish onto the table.”

“I will be keeping track of the time. You can begin when I say ‘GO’ and end when I say ‘STOP’”

direct and give them time to set up

“Go”

SET TIMER FOR 2 MINUTES

timer goes off

“Stop”

“You have now completed the simulated lab experience.”

“You may place your fishing pole down on the table.”

If they have not switched roles yet, continue to Part 2. If they have switched roles already continue to Part 3

Part 2

"You (therapist and patient) will now switch roles for the rest of the lab experience."

indicate swapping of spots

****Return to Part 1****

Part 3

"You have now both completed Rotation B of the lab simulation experience. Thank you for your participation."

"You may both return to your seats, or if everyone in your group has completed this rotation you can move to the next rotation. (Faculty Member) will direct you to the where the next rotation will take place."

END OF TRADITIONAL ONLY LAB EXPERIENCE

Rotation C: Facilitator Script
Combination
SP Lab

Groups 1,2, and 3 will be with Ally G.; **Groups 4 and 5** will be with Laken M.
8 minutes per person; **16** minutes per pair; **48 minutes total**

Script

Instruct all pairs to put their headbands on.

Part 1

" Hello, my name is (facilitator), I will be the facilitator for the lab experience for Rotation C."

"(Therapist), you will be playing the role of the simulated therapist first. (Patient), you will be playing the role of the simulated patient first. You will later switch roles once (patient) has completed the patient experience"

"The first activity for this lab experience is balloon volley. (Therapist), you will be tossing balloons to (patient) for her to hit with these two dowels."

show dowels

"(Patient), you will place the RED DOWEL in your RIGHT hand and the BLUE DOWEL in your LEFT hand."
hand them dowels

"This is a boundary for you to stay inside of while completing the activity. The boundary is here to aid in your safety as well as the safety of others. You will remain inside the boundary during the entire lab experience until instructed to exit."
point to boundary

"I will be instructing you (patient) on the direction to hit the balloons as they come. I may say hit it up, to which you will sweep up with the dowel." I may say to the right or left. Pay attention to my voice as you complete this activity."
show them hitting up, down, left, right motion

"Now you will both enter the boundary and begin when I say go. I will instruct you on when to stop."
configure them into the boundary
hand basket of balloons to therapist

"Begin"

SET TIMER FOR 2 MINUTES

**timer goes off"*

"Stop."

“Please (patient) hand me your dowels and put the balloons back into the basket.”
take dowels

allow time for them to pick up

“We will now continue to the next portion of the rotation.” *******

“(Patient), this is a virtual reality (VR) headset and controllers. You will use these to complete the following simulation.”
point to headset and controllers

“This is a boundary for you to stay inside of while completing the simulation. The boundary is here to aid in your safety as well as the safety of others. You will remain inside the boundary during the entire lab experience until instructed to exit.”
point to boundary

“If at any point during the simulation, you feel dizzy, nauseous, or have any other symptoms please alert me, (facilitator), immediately.”

“Here are the controllers.”
show controllers

“The right controller is marked with an *R* and the left with an *L.* During the simulation you can use the controllers to navigate through games and select items. There is a trigger on the end for your index finger and on the inside for your middle finger. The trigger on the end will be the most utilized as a selection tool.”

“On the RIGHT controller there will be a small oval button ( ) that can be pressed using your thumb and will be used to open the main menu.”
point to the button

“Once you have the headset on, I will hand you both controllers in their respective hand.”

“This is the headset.”
show them the headset

“You can adjust the straps on the top and back to ensure a comfortable fit.”
show them how to adjust the straps

“Place the headset on now and make any adjustments necessary.”

allow them time to adjust the headset

“I am handing you the left controller.”
hand them the left hand controller

“I am handing you the right controller.”
hand them the right hand controller

“The game you will be playing is called Bait, it is already loaded in the device. Can you see it clearly?”

“Now you should be in the game. Select the ‘start’ game menu item using your right index finger trigger to begin.”

“This will open another menu. Hover over the “NEW GAME” icon to begin”

“As you load in, look to your left hand side. There will be a red exclamation mark. Select the exclamation mark using the right index finger trigger.”

“Look back to the middle of the screen. A menu with a person talking will appear. Navigate to the right hand corner of the menu and select the arrow three times to move to the next windows. After the third time, an “X” should appear on the window. Select this to close the menu completely.”

“A fishing rod will appear. Press and hold the right side trigger button to grab the fishing rod. A glowing square will then appear on the water. The goal is to cast the fishing line into the square.”

“To do so, press and hold the right index finger trigger to ready the casting. Pull your right arm overhead and make a wide swinging motion towards the glowing square while simultaneously releasing the right index finger trigger. Give it a try.”
**have them perform the fishing motion”*

“The fishing line should land on the glowing square. There will be visible shadows of fish underneath the water that will swim towards the fishing bobber. Once the bobber goes under the water briefly, you are able to reel in the fish.”

“To reel the fish in, draw the left controller close to the right controller, as if putting your hand on the fishing reel, and start making circular motions away from you to emulate reeling in the fish”

“A bar will appear above the fish. If the bar turns red, you must briefly stop reeling. Once the bar returns to the previous color, you will be free to once again reel in the fish”

“When you finally pull the fish out of the water and close to you, you will reach towards the fish with your left controller, then grab the fish using the left index finger trigger. Let go of the same trigger to release the fish back into the water.”

“(Therapist), once again you will be watching the screen and instructing her on how to catch the fish.”

“Now you (patient) can begin fishing independently.”

**SET TIMER FOR 2 MINUTES”*

timer goes off

“Now you may stop the game. Press the ( ) using your thumb and and select the quit button on the newly opened menu to exit.”

“Now you should be back to the home screen.”

“Navigate to the bottom of the screen and hover over the app library button (the square with 9 small dots inside) and use the right index finger trigger to confirm your selection.”

“This should open a menu where you can see all the applications installed on the device.”

“Hover over the app with the Bait! icon and confirm your selection using the right index finger trigger.”

“You have now completed the simulated lab experience.”

“I will now take the controllers from you.”
take controllers

“Please remove the headset.”

If they have not switched roles yet, continue to Part 2. If they have switched roles already continue to Part 3

Part 2

“You (therapist and patient) will now switch roles for the rest of the lab experience.”

indicate swapping of spots

CLEAN HEADSET CUSHIONS WITH ALCOHOL WIPE and LENSES WITH MICROFIBER CLOTH

Return to Part 1

Part 3

"You have now both completed Rotation C of the lab simulation experience. Thank you for your participation."

"You may both return to your seats, or if everyone in your group has completed this rotation you can move to the next rotation. (Faculty Member) will direct you to where the next rotation will take place."

END OF COMBINATION LAB EXPERIENCE

Completing the Survey

"You will now be given time to complete the survey. As discussed in the introduction, participation in the survey is entirely voluntary; you will not be penalized for not completing it. If you choose to take the survey, we ask that you answer truthfully so that we can interpret the most accurate results."

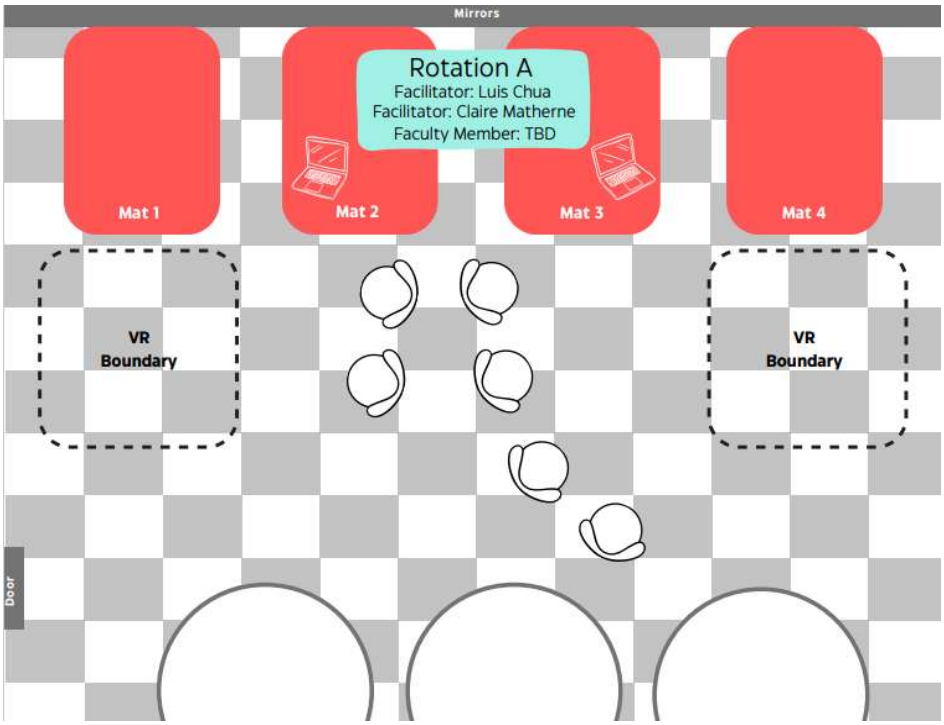
"If you do not wish to complete the survey, you may exit the lab now."
allow time for exit

"Thank you for choosing to participate in our survey. Your participation in this research lab experience is greatly appreciated by us, co-investigators, as well as our primary investigator, Dr. Robin Parish. The survey should take around 10 minutes to complete."

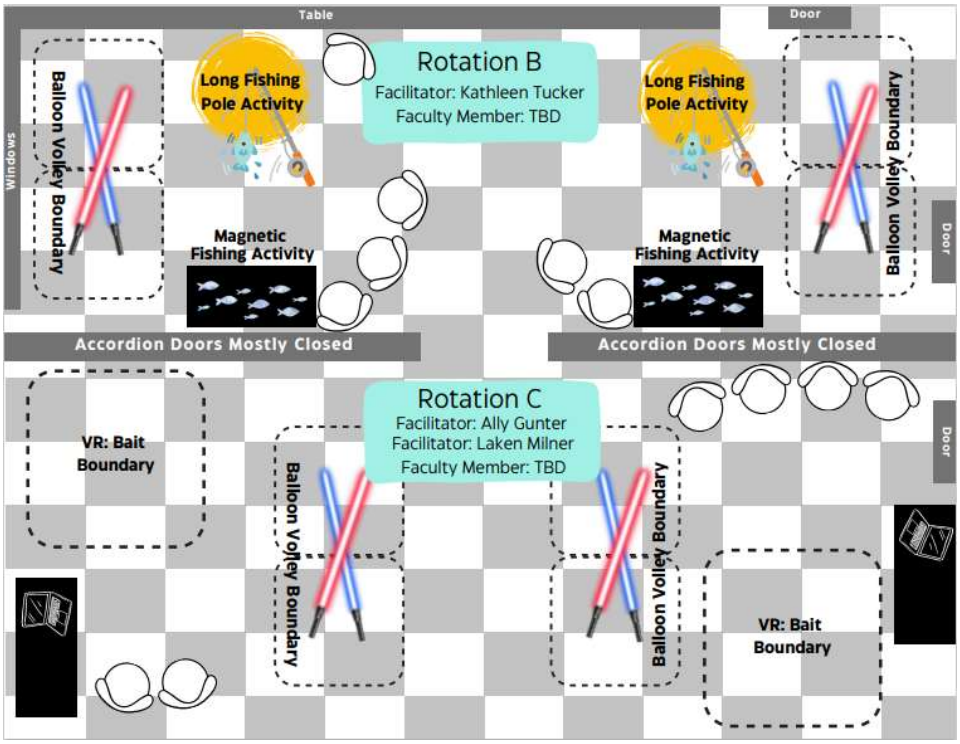
"You can scan this QR code and it will direct you to the RedCap website where you can take the survey. Once you have completed the survey, you will be free to exit the lab."

"Once again, thank you for your participation today."

End of Study



SP Lab Setup



*The **first pair for each co-investigator** will begin the lab experience.*

Traditional Upper Extremity Intervention versus Virtual Reality Intervention: Perceptions of OTD Students

Please complete the survey below based on your perceptions of the simulated lab experience.

Thank you!

I participated in and completed the virtual reality simulated lab experience.	◯ Yes ◯ No
Have you used virtual reality before? If so, how?	◯ Yes _____ ◯ No
What were your expectations about using virtual reality before this simulated lab experience?	_____

Simulated Patient Perceptions: Please answer the following questions from the patient's perspective.

	1. Strongly Disagree	2. Disagree	3. Neither Agree nor Disagree	4. Agree	5. Strongly Agree
I found wearing the headset was comfortable from the patient's perspective.	◯	◯	◯	◯	◯
I felt like I could move freely while using the virtual reality headset from the patient's perspective.	◯	◯	◯	◯	◯
I was satisfied with the verbal instructions provided by the therapist during the VR session from the patient's perspective.	◯	◯	◯	◯	◯
I think the VR tasks will be helpful to enhance the quality of care received from the patient's perspective.	◯	◯	◯	◯	◯
I found the VR tasks were fun and engaging from the patient's perspective.	◯	◯	◯	◯	◯
I found the VR tool enhanced my simulated lab experience from the patient perspective for upper extremity rehabilitation.	◯	◯	◯	◯	◯

Please provide any additional comments from the patient's perspective regarding the simulated lab experience.	_____

Simulated Patient Perceptions: Please rank the treatment methods from the patient's perspective, with 3 being the most effective and 1 being the least effective.

	1. Least Effective	2. Effective	3. Most Effective
Virtual Reality Only	◯	◯	◯
Combination (Virtual reality and Traditional)	◯	◯	◯
Traditional Only	◯	◯	◯

Please list 3 ways this simulated lab experience was effective from the patient's perspective. _____

Please list 3 barriers you experienced during this simulated lab experience from the patient's perspective. _____

Simulated Therapist Perceptions: Please answer the following questions from the therapist's perspective.

	1. Strongly Disagree	2. Disagree	3. Neither Agree nor Disagree	4. Agree	5. Strongly Agree
I found facilitating the use of the headset was user-friendly from the therapist perspective.	◯	◯	◯	◯	◯
I felt like I facilitated the intended movement to my client during their use of VR from therapist perspective.	◯	◯	◯	◯	◯
I was satisfied with the patients engagement during the VR session from the therapist perspective.	◯	◯	◯	◯	◯
I think the VR tasks will be helpful to include as an additional part of my upper extremity rehabilitation plan from the therapist perspective.	◯	◯	◯	◯	◯

Please provide any other comments from the therapist's perspective regarding the simulated lab experience. _____

Simulated Therapist Perspective: Please rank the treatment methods from the therapist's perspective, with 3 being the most effective and 1 being the least effective.

	1. Least Effective	2. Effective	3. Most Effective
Virtual Reality Only	◯	◯	◯
Combination (Virtual Reality and Traditional)	◯	◯	◯
Traditional	◯	◯	◯

Please list 3 ways this simulated lab experience was effective from the therapist's perspective. _____

Please list 3 barriers you experienced during this simulated lab experience from the therapist's perspective. _____

Implications for Use in Future Practice: Please answer the following questions to gauge your interest in utilizing VR in future practice.

	1. Strongly Disagree	2. Disagree	3. Neither Agree nor Disagree	4. Agree	5. Strongly Agree
VR treatment will be a valuable tool in my future practice.	◯	◯	◯	◯	◯
VR will allow me to individualize treatment plans to various clients/patients in my future practice.	◯	◯	◯	◯	◯
Using VR will allow me facilitate a more positive therapist patient relationship in my future practice.	◯	◯	◯	◯	◯
VR will allow me to address a wide variety of diagnoses in my future practice.	◯	◯	◯	◯	◯

Please list 3 ways this simulated lab experience was effective regarding VR use in your future practice. _____

Please list 3 barriers you experienced during this simulated lab experience regarding VR use in your future practice. _____

Potential Educational Value: Please answer the following questions as they relate to the potential educational value of your student experience during this simulated lab experience. For the purposes of this survey traditional learning is defined as face-to-face educational approach where a teacher instructs students in a physical classroom setting, typically using lectures, discussions, and direct interaction.

	1. Strongly Disagree	2. Disagree	3. Neither Agree nor Disagree	4. Agree	5. Strongly Agree
Virtual reality can serve to enhance traditional learning from the student-learner's perspective.	○	○	○	○	○
I would recommend VR as a learning tool versus traditional learning tools to others from the student-learner's perspective.	○	○	○	○	○
There is a need for more VR learning opportunities in my OTD curriculum as a student-learner.	○	○	○	○	○
Compared to traditional learning, I feel this VR simulated lab experience was a positive educational learning experience.	○	○	○	○	○

What three things did you enjoy most about this simulated lab experience from the student learner's perspective? _____

What three things did you find least enjoyable about this simulated lab experience from the student learner's perspective? _____

Do you have additional feedback or comments on your interaction with VR during this simulated lab experience? If so, please share. _____